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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,454	12/04/2003	Larry J. Buchanan	2003-IP-010346U1	7141

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EXAMINER

FULLER, BRYAN A

ART UNIT PAPER NUMBER

3676

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/727,454

Applicant(s)

BUCHANAN ET AL.

Examiner

Bryan A. Fuller

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 October 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-43 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-43 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This action is in response to the applicant's amendment filed 10/6/2005. Claims 1 – 43 have been finally rejected.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 – 6, 8 – 13, 15 – 19, and 21 – 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zupanick et al (6,425,448) in view of McDaniel et al (5,547,023).

With respect to claims 1, 11, 24, 29, and 34: Zupanick et al teaches in column 5, lines 1 – 48 and column 13, lines 39 – 64 a method for producing gas by drilling at least one substantially vertical well bore intersecting the coal seam, drilling a plurality of substantially horizontal well bores disposed substantially within the coal seam and exiting from the at least one substantially vertical well bore, wherein the plurality of substantially horizontal well bores is spaced to maximize interference between the substantially horizontal well bores. Zupanick et al does not teach the method of fracturing the coal seam along the plurality of substantially horizontal well bores using a hydrojetting tool to produce a plurality of fractures, wherein the plurality of fractures is spaced to maximize interference between the fractures and wherein the plurality of

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fractures enhances the production of gas from the coal seam of the subterranean formation. Additionally, Zupanick et al does not teach the step of casing or lining the plurality of horizontal well bores. McDaniel et al teaches in column 1, line 21 – column 2, line 60 a method of fracturing along horizontal well bores using a hydrajetting tool to produce a plurality of fractures, wherein the plurality of fractures is spaced to maximize interference between the fractures and wherein the plurality of fractures enhances the production from the subterranean formation.

With respect to claims 2, 15, 24, 29, and 34: Zupanick et al also teaches in column 10, lines 37 – 47 the method comprising the step of casing the at least one substantially vertical well bore.

With respect to claims 6, 19, 24, 29, and 34: Zupanick et al also teaches in column 9, lines 14 – 20 the step of inserting logging equipment into the at least one substantially vertical well bore.

With respect to claims 3 – 4, 16 – 17, 24, 29, and 34: McDaniel et al also teaches in column 6, lines 6 – 17 the step of casing or lining the plurality of substantially horizontal well bores.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Zupanick et al's invention in view of McDaniel et al's method and line or case the horizontal well bores and fracture the coal seam along the plurality of substantially horizontal well bores using a hydrajetting tool to produce a plurality of fractures, wherein the plurality of fractures is spaced to maximize interference between the fractures and wherein the plurality of fractures enhances the

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production of gas from the coal seam of the subterranean formation. The motivation for this combination is that it allows a poorly consolidated or otherwise unstable formation to be completed in a manner whereby wellbore stability problems are avoided.

With respect to claims 5, 18, 25, 30, and 35: Zupanick et al also teaches in column 10, lines 17 – 25 the step of removing water from the coal seam of the subterranean formation.

With respect to claims 12 and 13: Zupanick et al also teaches in column 16, lines 1 – 24 and in Fig. 12 a plurality of horizontal well bores arranged in at least two fork patterns, wherein the at least two fork patterns are opposed.

With respect to claims 8, 21, 26, 31, and 36: Zupanick et al also teaches in column 10, lines 31 – 47 and in Fig. 8 a method where at least one substantially vertical well bore terminates at or above the coal seam.

With respect to claims 9, 22, 27, 32, and 37: Zupanick et al also teaches in column 14, lines 58 – 62 and in Fig. 11 a method where at least one substantially vertical well bore terminates below the coal seam.

With respect to claims 10, 23, 28, 33, and 38: Zupanick et al also teaches in column 10, lines 40 – 45 and in Fig. 8 a method further comprising an additional step of plugging the at least one substantially vertical well bore at or above the coal seam before the step of drilling at least one substantially horizontal well bore.

3. Claims 7 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zupanick et al and McDaniel et al as applied to claims 1 and 11 above, and further in view of Milne et al (US 2002/0170712).

With respect to claims 7 and 20: Zupanick et al and McDaniel et al teach the features as claimed except for the use of logging equipment in the horizontal well bore. Milne et al teaches in paragraphs [0001] – [0006] the step of inserting logging equipment in the horizontal well bore. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the combination of Zupanick et al's method and McDaniel et al's method and insert logging equipment in the horizontal well bore in view of the teachings of Milne et al. The motivation for this combination is that it allows the oil/gas producer to assess the potential output of the well and where to perforate.

4. Claims 14, and 39 – 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zupanick et al and McDaniel et al as applied to claims 11 and 24 - 38 above, and further in view of Gardes (US 2003/0062198).

With respect to claims 14 and 39 – 43: Zupanick et al and McDaniel et al teach the features as previously claimed except for where the plurality of substantially horizontal well bores is arranged in a radial pattern. Gardes teaches in Figs. 10 – 12 and in column 9, lines 18 – 42 a method where the plurality of substantially horizontal well bores is arranged in a radial pattern. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the combination of Zupanick et al's method and McDaniel et al's method and create a plurality of substantially horizontal well bores that are arranged in a radial pattern in view of the teachings of Gardes. The motivation for this combination is that the principle well bore could be maintained live while one or more of the radial or multilateral wells

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were being drilled or completed so as to maintain the well live and yet protect the surrounding formation.

### ***Response to Arguments***

5. Applicant's arguments filed 10/6/05 have been fully considered but they are not persuasive. McDaniel teaches in column 1, lines 14 – 27 and in column 2, lines 50 – 60 a method of hydrajetting a plurality of fractures that are oriented specifically to enhance formation of the most conductive fracturing possible. The reference teaches hydrajetting a plurality of fractures in a manner to optimize production.

6. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, there were three combinations that were labeled as not having motivation to combine. All three of these combinations have motivation provided in the references. The first was Zupanick in view of McDaniel. McDaniel teaches in column 3 that using hydrajetting to fracture a wellbore allows a poorly consolidated or otherwise unstable formation to be completed in a manner whereby sand production from the formation is prevented and wellbore stability problems are avoided. McDaniel et al also teaches in column 3 that

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hydrajetting a plurality of fractures in combination with currently used completion methods can significantly reduce drilling and/or production problems.

The second instance is with regards to Zupanick in view of McDaniel and further in view of Milne. In paragraph [0002] of Milne, the reference teaches that it is extremely important to produce logs of each well in order that the oil/gas producer can assess the potential out put of the well and know where to perforate.

The last instance where the applicant claims a lack of motivation to combine is with respect to Zupanick in view of McDaniel and further in view of Gardes. However, motivation to combine is present in column 9 where Gardes states that the principle well bore could be maintained live while one or more of the radial or multilateral wells were being drilled or completed so as to maintain the well live and yet protect the surrounding formation.

7. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).



***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan A. Fuller whose telephone number is (571) 272-8119. The examiner can normally be reached on M - Th 7:30 - 5:00 and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian E. Glessner can be reached on (571) 272-6843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Brian E. Glessner  
Supervisory Patent Examiner  
Art Unit 3676

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